

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT				1. Contract ID Code		Page 1 of Pages 6	
2. Amendment/Modification No. Amendment 0004		3. Effective Date APRIL 22, 2005		4. Requisition/Purchase Req. No. NAAX1000-5-00002		5. Project No. (if applicable)	
6. Issued By NOAA's HIGH PERFORMANCE COMPUTING ACQUISITION OFFICE 1315 EAST WEST HIGHWAY, ROOM 9734 SILVER SPRING, MD 20190 Willam L. Voitek (301) 713-3525 ext 196				7. Administered By (If other than Item 6) Code			
8. Name and Address of Contractor (No., Street, County, and Zip Code) TO ALL INTERESTED PARTIES				(X)	9A. Amendment of Solicitation No. DG133A-05-RP-1038		
				X	9B. Date (See Item 11) Jan 13, 2005		
					10A. Modification of Contract/Order No.		
					10B. Date (See Item 13)		
Code		Facility Code					
11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS							
<input checked="" type="checkbox"/> The above numbered solicitation is amended as set forth in item 14. The hour and date specified for receipt of Offers <input checked="" type="checkbox"/> is extended <input type="checkbox"/> is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing items 8 and 15, and returning <u>1</u> copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.							
12. Accounting and Appropriation Data (if required) \$							
13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACT/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.							
(x)	A. This change order is issued pursuant to: (Specify authority) The changes set forth in item 14 are made in the Contract Order No. in item 10A.						
	B. The above numbered Contract/Order is modified to reflect the administrative changes (such as changes in paying office, appropriation date, etc.) Set fourth item 14, pursuant to the authority of FAR 43.103 (b)						
	C. This supplemental agreement is entered into pursuant to authority of:						
	D. Other (Specify type of modification and authority)						
E. IMPORTANT: Contractor <input type="checkbox"/> is not, <input type="checkbox"/> is required to sign this document and return <input type="checkbox"/> copies to the issuing office.							
14. Description of Amendment/Modification (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)							
1. The date for receipt of proposal has been extended until 12:00 PM (Noon) Eastern Daylight Savings Time on May 19, 2005.							
15A. Name and Title of Signer (Type or Print)				16A. Name and title of Contracting Officer (Type or Print)			
15B. Contractor/Offeror				15C. Date Signed		16B. United States of America	
(Signature of person authorized to sign)						(Signature of Contracting Officer)	
						16C. Date Signed	

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2. This Amendment revises the Solicitation as follows:

SECTION C

The following is a summary of the revisions to Section C. Because of the number of changes, a revised Section C, in its entirety is attached to this Amendment and supersedes Section C provided in Amendment 0003. NOTE: Throughout Section C, Tables and Figures have been renumbered.

C.4.2, 7th paragraph, 3rd bullet is changed to read as follows: “Revised workstream benchmark codes and performance baseline data must be delivered by the Government to the Contractor no later than 6 months prior to delivery of an upgrade.”

C.5.2.4, 5th paragraph, add the following sentence at the beginning of the paragraph: “The Government requires uninterrupted access to its legacy data (see Figure IIIa).” Figure IIIa, “Life-cycle of the legacy data” added immediately after Figure III.

C.5.2.5, 3rd paragraph, the following sentence has been deleted: “Table IIa shows the daily volumes that NOAA expects to be written and read over the life of the contract.”

C.2.5.7, Table III renamed “Life-cycle of the data for a given Workstream”. Workstreams 1, 2, and 3 in Table III have been revised to read as follows: “100% as a persistent archive.”

C.5.2.7, Figure 1, Data Retention for WS4-WS9, has been revised.

C.5.3.1, In 1st paragraph, the following sentence is added at the end of the paragraph: “All software licenses provided under this contract shall cite the Government as the licensee.”

C.5.4, Networking Requirements, is revised in its entirety.

C.5.5, 6th paragraph, the following is added to the final sentence: “as a separate Government system, as specified in Section H.16.”

C.5.5, 8th paragraph, 1st sentence is changed to read as follows: “While the Government may provide some measure of physical or network perimeter protection for the system, the Contractor shall be responsible for implementation of IT Security for the delivered solution in accordance with DOC and NOAA policies.”

C.5.6.1, Revised to reflect deletion of LARGO and FAIRMONT and the addition of GREENBELT.

C.5.6.1, 2nd paragraph, new bullet added as follows:

- If the Offeror chooses to use the computer-conditioned space at the Greenbelt site, hereafter referred to as GRBLT site, it shall include a per annum cost of \$130,000 in its price proposal for use of the space, beginning in October 2006. This cost shall be in addition to the electric utility costs as prescribe in Section C.11.3.2 and Section H.19.

C.5.6.3, In 1st paragraph of subsection “Princeton, NJ”, 5th line from end of paragraph, remove “any portion of” in the sentence beginning with “It may construct.”

C.6.1.2, 1st paragraph, second sentence is changed to read as follows: “These components include not only those typically associated with a high performance computing system but also any LAN/WAN components provided as part of the HPCS.”

C.7.2, has been revised to clarify training requirements.

C.10.4, Networking, has been revised in its entirety.

C.11, numerous changes are made through Section C.11 reflecting the deletions of Largo and Fairmont and the addition of Greenbelt.

C.11.1.1, 2nd paragraph is revised to read as follows:

“Figures 11, 11a, 12, 12a, 13, 13a, 14 and 15 referenced below will be provided to Offerors upon request and are not subject to these GSA regulations. Figures 14 contains sensitive but unclassified information and is subject to the GSA regulations; this figure will be provided to Offerors from whom the Government has received acceptable non-disclosure forms for the facilities shown in the figures (i.e., PRTN).”

C.11.1.1, Under BLDR-1, the following sentence is added: “Figure 11a shows 80 sq. ft. of space available in October 2005 in support of a possible HSMS.”

C.11.1.3, Under BLDR-1, the following sentence is added: “Figure 11a shows 80 sq. ft. of space available in October 2005 in support of a possible HSMS.”

C.11.1.3, Under BLDR-2 change “Figure 12 indicates” to read “Figure 12a indicates.”

C.11.1.3, Under BLDR-2 after “1424 sq. ft. of raised floor space is available for equipment” add “and includes space identified for UPS and CRAC units.”

C.11.1.4, BLDR-1 is changed to read as follows: “A total of 3600 sq. ft. of raised floor is in BLDR-1. 80 sq. ft. of this space will be available in October 2005. A total of 2250 sq. ft. of this space will be available in October 2006.

C.11.1.4, Under BLDR-2 after “a total of 1424 sq. ft. of raised floor will be in BLDR-2, all of which will be available once construction of the rooms is completed in October 2005.” add “See Figure 12a for locations of installed UPS and CRAC unit equipment.”

C.11.1.6, In subsection “PRTN”, in 9th line of paragraph, add “space to be used for” between “The” and “offices that”. Then in 10th line of the paragraph, change “are now” to “is” after “on this hard pan space”.

C.11.2.1, Delete “and 7 ft high doorframes.” Add under BLDR-1 “Doorframes along this path are 83 inches at their low point.” Add under BLDR-2 “Doorframes along this path are 96 inches at their low points.”

C.11.3.1, In 1st paragraph of subsection “PRTN”, replace text in paragraph from the 11th line on with the following:
 “measured at 1070 kW, which reflects peak demand over the past several years. The peak demand for the campus for the period of April 5-11, 2005, is 440 kW (506 kVA with the indicated power factor of 0.87). Although the reading of 1070 kW implies that 1430 kW is available (less with the indicated power factor of 0.90 from the lab meter) for the Princeton Complex from the current 2500 kVA substation, the Government is discussing options with Princeton University for increasing its share to 1600 kW or more, given that power demand from the rest of the campus seems to be decreasing. PSE&G has indicated that it will upgrade the capacity of this substation, if required; however, the underground 13200 volt feeder line connecting the substation to the main PSE&G grid (located on nearby U.S. Route 1) may involve an additional cost to the customer.”

C.11.3.4, Under BLDR-2 change “16-minute” to “15-minute.”

C.11.4.1, Replace the 4th paragraph under subsection “PRTN” with the following:

“The current configuration permits operation of only one chiller in the Primary Chilled Water Plant at a time plus Chiller #4 in the Secondary Chilled Water Plant. The power capacity of the Main Building substation has been determined to permit operation of any two of the three chillers at one time. In a recent test, Princeton University concluded that it can run Chiller #4 with either Chiller #1 or Chiller #3, but that it cannot run Chiller #1 and #3 simultaneously due to water flow constraints or flow control problems caused by the current chilled water piping design. Chiller #1 has been found to be very sensitive to small changes in flow. These restrictions could be eliminated by a redesign of the chilled water plumbing and/or controls; until this situation is resolved, operation appears to be limited to Chillers #3 or #1 along with #4 for heating loads requiring more than one chiller. The problem with this is that, in the event that Chiller #4 is unavailable, operation will be limited to only one chiller.”

C.11.4.2, In the paragraph after the bulleted list in subsection “PRTN”, in the 2nd line, replace “western” with “northeast” before “corner.”

C.11.5, Networking Facilities, has been deleted in its entirety, and now appears as “Reserved” in Section C.

C.11.6.1, Split BLDR-1 from BLDR-2 and show the following for BLDR-2:

“BLDR-2

Computer room has Clean Agent fire suppression with high sensitivity fire detection system. Room has wet-pipe overhead sprinklers with 2008F trip point. CO₂ bottles are located in the room with FE-36 bottles surrounding the room. Alarms are tied to the building alarm system.”

C.11.7.1, In the 2nd line of the 2nd paragraph of subsection “PRTN”, replace the beginning of the sentence, “During these years, a review of operator logs showed” with “A review of operator logs for these years showed”.

C.11.7.1, In the table in subsection “PRTN”, replace the entry, “25 Feb 04”, in the left column of the 4th row with “25 Feb 03”.

C.11.11, Table revised to reflect deletion of Fairmont and Largo and addition of Greenbelt; BLDR-1 and BLDR-2 depicted separately under available raised floor space, available power, and available cooling. In portions of the Table, BLDR-2 is identified separately from BLDR-1 and quantities have been revised.

C.11.11, Under Available Raised Floor Space, increase the PRTN entry for 10/2006 from “5,500” to “6,500.” Also increase the TOTAL for 10/2006 by 1,000.

C.11.11, Under Available Power, change 10/05 and 10/06 entries for PRTN to 70 and 650 respectively.

C.11.11, Under Available Cooling, change 10/04, 10/05, and 10/06 entries for PRTN to 170, 108, and 307 respectively.

C.11.11, Under BLDR assumptions added for addition of 80 sq.ft of available raised floor space, power, and cooling in October 2005 for possible HSMS.

C.11.11, Replace the assumptions under “Available Power” for PRTN with the following:

- (1.) The projected available power for HPC equipment assumes 1620 kW of power will be available for the Princeton Complex from the 2500-kVA substation. If a new campus transformer were installed, the projected power available would be higher.
- (2.) Power estimates assume steady state ratings, not book value ratings for systems.
- (3.) Oct. 2005 estimate assumes the projected power usage of the current Raytheon system will be 580 kW, which is the maximum (80%) capacity of the two current UPSs.
- (4.) Oct. 2006 estimate assumes the full 650 kW is available to the R&D HPC equipment, with other Computer Building power loads assumed to remain the same (e.g., the load of the 7 air handlers was measured at 59 kW) in order for the Princeton Complex to operate within the peak demand of 1620 kW.

C.11.11, Replace the assumptions under “Available Cooling” for PRTN with the following:

- (1.) Assume the building load for the Princeton Complex for the hottest day of the year is 273 tons, based on observation that Chiller #1 alone (400 tons) reached maximum capacity (with the addition of a 10-ton margin of error) on this day when cooling the Princeton Complex and the HPC system that was operating in October 2004.
- (2.) Compute cooling load for the system by multiplying system power usage (converted to refrigeration tons) by a factor of 1.2 to reflect other room heat sources and cooling inefficiencies and assuming a power factor of one for the HPC system.
- (3.) Assume maximum chiller capacity uses Chillers #3 (350 tons) and #4 (225 tons) operating together as the minimum N+1 chiller configuration.

C11.11, Remove the table and all assumptions titled “Available Wide-Area Network Capacity” on Pages 86 and 87 of Amendment 0003.

NOTE: Figure numbers in C.11.11 have been changed. As an example, what previously had been Figure 1 is now Figure 11; what was previously Figure 2 is now Figure 12, etc.

C.11.11, Add after Figure 11 the following:

“[Figure 11a withheld from Public Website – Available upon Request]

Figure 11a Computer Room Layout for BLDR-1 showing 80 sq. ft. of raised floor area available for an HSMS in October 2005.

C.11.11, Add after Figure 12 the following:

“[Figure 12a withheld from Public Website – Available upon Request]

Figure 12a Schematic of Revised of Revised Computer Room Layout for BLDR-2 facility that seeks to address concerns expressed by Contractors in their questions as well as design requirements. See Section C.11.1.1.”

C.11.11, The caption for Figure 13 is changed to read as follows:

Figure 13 *Computer Room Layout for PRTN as originally planned. Small squares in the figure indicate 2’x2’ floor tiles. Vent tiles are indicated by stippled squares. (The construction of the 5 offices on the left hard pan and the two offices to the left of the Operators Room have been cancelled. See Figures 13a and 14 for the actual configuration of office spaces.)*

C.11.11, Figure 13a is added as follows:

[Figure 13a withheld from Public Website – Available upon request.]

Figure 13a Schematic of PRTN Computer Room and adjacent rooms as of October 2005. Equipment in the Computer Room that is not colored is Raytheon equipment that will be removed at the end of the current HPCS contract. The equipment surrounded by red dashed lines, the Verizon telco rack (red) next to the left hard pan and the servers/UPS boxes (light green) and LAN network rack (red) in the lower right, are Government equipment that are not specifically part of this contract. The colored GFE equipment are as follows: air handlers (light blue), PDUs (dark blue), 225-KVA UPS (brown), archival storage (yellow), networking equipment (red), SAN (TP9100) disks (purple), SGI Origin 3800 systems (orange), and SGI Altix 8-processor test system (dark green). The positions of systems in this figure represent the Government’s best estimate at this time, but may change slightly before October 2005.

C.11.11, Delete Figure 15, Schematic of LARGO and Figure 16, Schematic of FAIRMONT. Substitute Figure 15 as follows:

[Figure 15 withheld from Public Website – Available upon request.]

Figure 15 Schematic showing configuration of planned computer room at GSFC Building 28 as shaded region within the current office layout of the first floor of the building. The location of support columns within the shaded area are indicated by squares.

C.12, In Boulder, CO, the HSMS is changed to Restricted GFE and is available for use in October 2005. Also, LTO-1 Tape Cartridges have been added to the list of available Restricted GFE.

C.12, In “Princeton, NJ” in “Unrestricted GFE”, in table titled “Hierarchical Storage Mgmt System” (Page 92 of Amendment 0003), in the row marked as “9940, Library, Fibre” in the 3rd column change “24” in the 4th column to “30”

C.12, In “Princeton, NJ” in “Unrestricted GFE”, in table titled “Hierarchical Storage Mgmt System” (Page 92 of Amendment 0003), in the row marked as “9840” in the 2nd column and “Media Cartridges” in the 3rd column, change “3,000” in the 4th column to “6,000”

C.12, In “Princeton, NJ” in “Unrestricted GFE”, in table titled “Hierarchical Storage Mgmt System” (Page 92 of Amendment 0003), in the row marked as “9940” in the 2nd column and “Media Cartridges” in the 3rd column, change “12,000” in the 4th column to “13,000”.

C.12, Enter the following new GFE title and entries at the very end of the “Princeton, NJ” section within the subsection, “Unrestricted GFE”:

		<i>Maintenance/Test System</i>	
Manufacturer	Part	Description	Qty
SGI	LS-3700	Altix 3700 Server: base system infrastructure	1
SGI	TP9300-BASE-2C	Fibre Channel controller enclosure, dual 2 Gb FC controllers, 512MB cache, 6 SFPs, 14 drive bays, no drives	1
SGI	TP9500-73GB-E	2 Gbit, 73 GB, 15K rpm LP Disk Drive with Dual FC/AL Ports	14
SGI	DK-TP-001	TP9300 destination kit	2
SGI	TP9300-RMKIT-UNIV	Rackmount kit for OEM racks, mounts to rails 20.5" to 28.5" deep for TP9300 controller enclosure	1
SGI	X-F22-OPT-3M	3 meter 50 micron optical cable w/LC connectors. For use with 2 Gbit switches, HBAs and devices.	2
SGI	LS-3700-4-4	Altix 3700 system: 4:1.5 GHz/6.0 MB, includes 1 IX-brick with 73GB system disk, no memory.	1
SGI	LS37-CBRICK-4-4	Altix 3300/3700 C-brick with 4x1.5 GHz/6.0 MB processors with NUMalink cables, no memory	1
SGI	LS-MEM-8G-166	8 GB standard system memory (8 DDR x 1 GB 166MHz) for Altix 3700 (min. 1 per C –or- M brick required).	2
SGI	73GB-IX BRICK	System disk for use in SGI 3000 series IX-bricks (73 GB/10K SCSI disk) maximum two disks per IX-brick.	1
SGI	SC5-PROPACK-2.4	SGI ProPack v2.4 for Linux (includes base OS-SGI Advanced Linux Environment 2.1.1)	1
SGI	DK-N3P-003	SGI 3000 three-phase power distribution unit for North America. One per SGI 3000 rack.	1
SGI	PCI-FC-1PORT-B	Single port 2 Gbit FC host bus adapter	2
SGI	PCIX-GIGENET-OR	1-port optical Gigabit Ethernet card for Altix	1
SGI	SR5-XVM-IPF-M	Right To Use XVM Standalone Volume Manager on a single Altix 3000 Linux host with up to 16 CPU.	1
SGI	M4-SVCWRNT-1.0	Global Services warranty card, system registration and Services Reference Guide for systems.	1
SGI	M05-CD	CD-ROM Update Media	1

SECTION I

I.8, is added to the Solicitation and incorporates by reference several construction clauses. The attached pages I-6 and I-7 should be added to Section I.

SECTION J

J.1, BENCHMARK INSTRUCTIONS, has been revised in its entirety. Section J.1 from Amendment 0003 should be removed and replaced with the revised Section J.1 which is attached.

SECTION L

The following is a summary of the revisions to Section L. Because of the number of changes, a revised Section L, in its entirety is attached to this Amendment and supersedes Section L provided in Amendment 0003.

L.6.1.1, TAB 3.4.4, 4 Hierarchical Storage Management System (HSM), is revised to add the following sentence: “Describe how the proposed solution will meet the requirement for providing uninterrupted access to the Government’s legacy data.”

L.6.1.1, TAB 5, Networking Requirements, has been revised.

L.6.1.1, TAB 6, IT Security, has been revised to read as follows: “Describe the IT security hardware, software, and procedures that will be incorporated into the design of the proposed system that meet the requirements of section C.5.5 for the base contract period. Provide diagrams, specifications, and license information for all hardware and software that is proposed.”

L.6.1.1, TAB 9, Project Plan Management has been revised.

L.6.1.1, TAB 10.4, Engineering Support has been changed to read as follows: “Describe how the Offeror will provide the engineering support as described in sections C.9.5.1, C.9.5.2, and C.9.5.3 utilizing an ID/IQ mechanism.”

L.8, 4th paragraph, item 1) is changed to read as follows: “A detailed site-preparation plan that prescribes facility modifications, with schedule, that are required for initial equipment installation and any subsequent equipment transitions during the base contract. Contractors that propose to use GSFC, BLDR-1 and/or BLDR-2 must provide a detailed description of site modifications, including cost estimate, so that credits can be provided to the Government for work to be completed by GSA or NASA contractors.”

L.9, is revised to delete mention of Largo and Fairmont and add NASA/Goddard Space Flight Center.

L.23, last paragraph is changed to read as follows: “Alternate proposals may be submitted within 10 calendar days from the proposal closing date and time specified in L.5, SUBMISSION OF OFFERS. Alternate proposals received during this 10 day period will only be accepted if the primary proposal was received by the closing date and time specified. Offerors are to state its intention of submitting alternate proposals with submission of its initial proposal. In addition, Offerors are to include with its initial proposal submission, a synopsis of its alternate proposal(s).”

3. This Amendment also responds to vendor’s questions received since issuance of the Solicitation. These responses are included as an attachment to this Amendment. NOTE: The questions and answers are also posted to the NOAA R&D HPCS web site at:

<http://rdhpcs.noaa.gov>

If there are any disparities between the questions and answers on the web site and this Amendment, this Amendment shall prevail. Answers to previous questions not provided with this Amendment, and any additional questions received will be responded to in a subsequent Amendment.

Except as provided herein, all terms and conditions of the document referenced in item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. Name and Title of Signer (Type or Print)		16A. Name and title of Contracting Officer (Type or Print)	
15B. Contractor/Offeror	15C. Date Signed	16B. United States of America	16C. Date Signed
_____ (Signature of person authorized to sign)		_____ (Signature of Contracting Officer)	